



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,434	04/10/2006	Stefan Kunz	06-226	1858
34704	7590	07/09/2008		
BACHMAN & LAPOINTE, P.C. 900 CHAPEL STREET SUITE 1201 NEW HAVEN, CT 06510			EXAMINER MACAULEY, SHERIDAN R	
			ART UNIT 1651	PAPER NUMBER ELECTRONIC
			NOTIFICATION DATE 07/09/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

<b>Office Action Summary</b>	<b>Application No.</b> 10/575,434	<b>Applicant(s)</b> KUNZ, STEFAN
	<b>Examiner</b> SHERIDAN R. MACAULEY	<b>Art Unit</b> 1651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on February 28, 2008.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,2,4-8,10,14 and 15 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1,2,4-8,10,14 and 15 is/are rejected.

7) Claim(s) 1 and 14 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/06)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_

**DETAILED ACTION**

A response and amendment were received and entered on February 28, 2008. All evidence and arguments have been fully considered. Claims 3, 9, 11-13 and 16-22 have been cancelled. Claims 1, 2, 4-8, 10, 14 and 15 are pending and examined on the merits in this office action.

***Claim Objections***

1. Claims 1 and 14 are objected to because of the following informalities. It is recommended that the claims be amended as follows: In claims 1 and 14 the word "is" should be changed to "in" in the third to last line of each claim. Also, in claim 14, the word "comprises" should be changed to "comprising" in the fourth line of the claim. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

2. Rejections under 35 USC 112 have been withdrawn due to amendment.

***Claim Rejections - 35 USC § 102***

3. Rejections under 35 USC 102 have been withdrawn due to amendment.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1, 2, 4-8, 10, 14 and 15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over JP06256125 (see English abstract, Derwent Acc. No. 1994-329870, cited in prior action) in view of Seibold et al. (see abstracts of presentations given at Arbeitskreis Phytobakteriologie Conference, Sept. 11-12, 2003, English machine translation, cited in prior action), and further in view of Jabar et al. (US 2002/0166147, cited in prior action). Claim 1 recites a method for controlling fire blight comprising providing an acidic environment comprising (1) fungal structures selected from the group consisting of yeast cells, fungal spores and mixtures thereof, and (2) at least one of disodium hydrogen phosphate and sodium hydrogen carbonate in an amount sufficient to maintain a pH of the acidic environment between 3 and 6; and applying the acidic environment to a plant. Claim 2 recites the method of claim 1, characterized in that the acidic environment is kept within a pH range of pH 3.6 to 4.0. Claims 4 and 5 recite the method of claim 1, including the step of adding blastospores of the species *Aureobasidium pullulans* or yeast cells of the species *Metschnikowia pulcherrima*.

Art Unit: 1651

Claim 6 recites the method of claim 1, including adding citric acid as acidifier. Claim 7 recites the method of claim 1, including adding whey powder. Claim 8 recites the method of claim 1, including adding (1) blastospores or yeast cells, (2) citric acid and (3) whey powder. Claim 10 recites the method of claim 1, including adding spores, conidia and budding yeast cells of filamentous fungi and yeast as fungal structures which are capable of multiplication. Claim 14 recites a plant protection agent for controlling fire blight, comprising an acidic environment and fungal structures that are capable of multiplication, wherein the acidic environment and fungal structures comprise (1) fungal structures selected from the group consisting of yeast cells, fungal spores and mixtures thereof, and (2) at least one of disodium hydrogen phosphate and sodium hydrogen carbonate in an amount sufficient to maintain a pH of the acidic environment between 3 and 6. Claim 15 recites a plant protection agent for controlling fire blight, wherein 1 kg of product comprises:  $2 \times 10^{11}$  to  $1 \times 10^{13}$  blastospores of the species *Aureobasidium pullulans*; approx.  $2 \times 10^{11}$  to  $1 \times 10^{13}$  yeast cells of the species *Metschnikowia pulcherrima*; 100 g to 400 g citric acid; 50 g to 250 g disodium hydrogen phosphate; and 100 g to 500 g whey powder.

7. JP06256125 teaches the preparation of a white root rot eliminating composition comprising fungi of the genus *Trichoderma* and dilute acids such as citric acid. JP06256125 teaches a method of treating white root rot comprising administering the composition to plant. The composition of JP06256125 comprises dried fungal material that, absent evidence to the contrary, would contain spores and would be capable of multiplication under appropriate conditions. Because it contains dilute acids, the

composition of JP06256125 would be acidic. The composition of JP06256125 comprises an organic manure that can easily be made into a liquid, such as animal protein. See English abstract. The reference does not discuss the use of the claimed species of fungi or the addition of whey, phosphate or carbonate to the composition for use in the method of treating plants.

8. Siebold teaches that the fungi *Metschnikowia pulcherrima* and *Aureobasidium pullulans* inhibit the growth of fire blight (*Erwinia amylovora*). See translated abstract (p. 13).

9. Jabar teaches the use of a composition that may comprise whey and phosphate for the treatment of plants in order to increase crop yield (abstract, p. 2, par. 24, p. 3, par. 34). Jabar teaches that the composition for the treatment of plants may be applied as a spray (p. 3, par. 33).

10. At the time of the invention, a method and composition for treating plants to protect them from fungal disease similar to the claimed invention was known, as taught by JP06256125. It was further known that *Metschnikowia pulcherrima* and *Aureobasidium pullulans* could be used to inhibit the growth of fire blight, as taught by Siebold. The addition of phosphates and whey to plant treatment compositions was also known in the art at the time of the invention, as taught by Jabar. One of ordinary skill in the art would have been motivated to combine these teachings because JP06256125 is directed to a composition comprising a fungus for administration to a plant for the treatment of a disease caused by a microorganism and Siebold teaches fungi which would be useful for the treatment of a disease caused by a microorganism.

Thus, both teachings are directed to antimicrobial components that may be used in compositions for the treatment of a plant. Combining equivalents that are known to be useful for the same purpose constitutes *prima facie* obviousness (see MPEP 2144.06). One would have been motivated to add the various components taught by Jabar to a plant treatment composition because JP06256125 teaches the use of an organic manure, preferably a material which can easily be made into a liquid, such as animal protein in the composition for the treatment of plants (abstract). Jabar teaches that whey is a suitable source of animal protein (or peptides) for a composition for the treatment of plants (par. 24). One of ordinary skill in the art would thus have recognized that whey would be desirable for use in the composition for the treatment of plants for the prevention of microbial disease. Further, Jabar teaches that phosphates are useful in compositions for the treatment of plants because they are pH control agents (p. 3, par. 34). The use of a buffer in a composition comprising biological material, such as microorganisms, or a composition with a predetermined pH, would be a matter of routine optimization for one of ordinary skill in the art. Further, the use of the claimed pH range, the use of the spores, conidia and budding yeast cells of the fungi, and the claimed concentrations of components would all have been matters of routine experimentation to one of ordinary skill in the art. One of ordinary skill in the art would have had a reasonable expectation of success in combining the teachings discussed above to arrive at the claimed invention because the use of fungi as antagonists to prevent microbial infection of plants was known in the art, as taught by Siebold (abstract, p. 13), and all of the components of the claimed method and composition

were known at the time of the invention to be suitable components in compositions for the treatment of plants, as taught by JP06256125. It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings discussed above to arrive at the claimed invention.

11. Thus, the claimed invention as a whole was *prima facie* obvious over the combined teachings of the prior art.

#### ***Response to Arguments***

12. Applicant's arguments filed February 28, 2008 have been fully considered but they are not persuasive. Applicant argues that the cited references do not teach or suggest the claimed invention because they do not teach or render obvious the particular acidic environment disclosed by the references. In response to this, it is noted that the JP06256125 reference teaches the use of a composition comprising a microorganism in an acidic environment similar to the claimed acidic environment for the control of plant infections. It was also known in the art at the time of the invention that the claimed fungal species could be used at the time of the invention for the treatment of fire blight. One would thus have recognized that the two compositions (i.e. a composition comprising a microbe in an acidic environment and a composition comprising the claimed fungal cells) could have been combined because they were known to be useful for the same purpose (i.e., the control of plant infections). The combination of two prior art elements that are known to be useful for the same purpose constitutes *prima facie* obviousness. Furthermore, although the recited pH range and

concentrations of the claimed components are not taught by the references, one of ordinary skill in the art could have arrived at the claimed range in the matter of routine experimentation, especially in the absence of evidence that the claimed pH range presents any particular advantage over the prior art. Therefore, applicant's argument that the claimed invention is not taught or rendered obvious in view of the cited references is not found to be persuasive.

13. Thus, applicant's arguments have been fully considered, but they have not been found to be persuasive.

***Conclusion***

No claims are allowed.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHERIDAN R. MACAULEY whose telephone number is (571)270-3056. The examiner can normally be reached on Mon-Thurs, 7:30AM-5:00PM EST, alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached on (571) 272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Leon B Lankford/  
Primary Examiner, Art Unit 1651

SRM